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# PATENT SPECIFICATION

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## DRAWINGS ATTACHED

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## (54) A MATTRESS FRAME

(71) I, KARL KRUMME a German citizen of 4501 Natrip-Hagen, Germany, trading as KARL KRUMME K.G. do hereby declare the invention for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to a mattress frame presenting an underspringing for the mattress formed by a plurality of individual, transverse slats; because in mattress frames of this kind, the transverse slats are generally made of wood, possibly with a steel insert, they are frequently referred to as "wood slat frames" or simply as "slat frames" supporting some other material is used. Wood slat frames of this kind are available in the most varied forms; they are used in association with one-part or multi-part, fixed or loosely supported upholstered mattresses, in beds, couches and so on.

When using slat frames of this kind, in practice there is the current problem that the upholstered mattresses supported on the underspringing of transverse slats, become damaged underneath after a greater or lesser length of service, due to the friction between the upholstered mattress and the slats. To avoid this kind of damage, frequently so-called mattress protectors are arranged beneath the upholstered mattresses, but this is an elaborate and expensive procedure and in any case does not avoid the wear but simply transfers it to the protector.

The invention provides a slat frame for a mattress characterised in that the longitudinal direction of the frame at least one pre-tensioned elastic web extends so as to bear on the top of the slats.

In fact, a single elastic web having a width equal at least to half the frame width, can be stretched centrally over the length of the frame; it is equally possible however, to stretch several narrower elastic webs or belts side by side and longitudinally over the

frame, across the transverse slats. The elastic web or webs can consist of known kinds of rubber textile products fixed to the cross members at the two ends of the frame.

By the invention, the abovementioned deficiency in wood slat mattress frames is overcome because the elastic web of webs shield the edges of the slats from the upholstery mattress which rests on top, either loosely or in a fixed relationship with the frame. Also with this construction point loads on one transverse slat are distributed to several others, so that there is no longer any individual loading of the slats. This increases the service life of the slat frame.

A specific embodiment of the invention will now be described by way of example with reference to the accompanying figure of drawing.

In the example shown in the accompanying drawing to which reference is now made, the slat frame consists of two longitudinal members 1, 2 and two cross members 3, 4 which are fixed to one another at their ends. These longitudinal and cross members normally consist of wood but could equally be made of some other suitable material.

The supporting surface or underspringing of the frame constituted by the longitudinal and cross members 1 to 4 is formed by a plurality of individual, bendable, transverse slats 5. These transverse slats 5 are normally of multi-laminated wood of which the laminations are glued together and can be provided with a spring steel insert. The slats 5 are so attached to the longitudinal members 1, 2 of the frame, in a manner not shown here, or held in said members such that they can bend resiliently under any load applied to them. Where the example illustrated is concerned, it has been assumed that the slats 5 have been inserted into longitudinal members 1, 2, under preload, giving them a slightly upwardly bowed form, and can deflect resiliently when a load is applied to them. Any other known or convenient construction of slat frame can be

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used to perform the invention.

5 In accordance with the invention, and in the specific form of it now being described, in the longitudinal direction of the frame, at least one web or belt 6 of elastic nature, is placed on top of the slats 5, and pretensioned into position there so as also to pretension the slats. In the illustrated example, the elastic web 6 consists of a one-piece web having a width at least equal to half the frame width, stretched centrally over the length of the frame. The elastic web 6 consists of a known kind of rubber textile web or belt, which is fixed to the transverse members 3, 4 of the frame, in a stretched or in other words preloaded condition. Instead of the single elastic web 6 which has a width of at least half the frame width, it would be equally possible to use several narrower elastic webs or belts, extending in a longitudinal direction of the frame.

10 Because of the elastic web 6 (or the narrower elastic webs or belts) pretensioned in the longitudinal direction of the frame and bearing on top of the slats 5 under a light preload the slats 5 not only have their edges shielded from the upholstered mattress which is placed on top of them either loosely or in fixed relationship but are also interconnected with one another as far as load application is concerned, so that any point load is distributed in each case amongst several of the slats 5 and there is no longer any individual loading of any one particular slat. Frictional forces between the upholstered mattress which rests upon the frame either loosely or in a fixed relationship, and the slats 5, with con-

sequent damage to the underside of the upholstered mattress, are thus avoided or at least reduced to a very large extent 40

For the foregoing reasons, it is clear that the invention can be applied with great advantage to slat frames of the most varied designs, and it is not restricted to the slat frame illustrated in the accompanying drawing. 45

WHAT I CLAIM IS:—

1. A slat frame for a mattress characterised in that in the longitudinal direction of the frame at least one pre-tensioned elastic web extends so as to bear on the top of the slats. 50

2. A slat frame as claimed in claim 1 wherein a single central, elastic web is provided having a width equal to at least half the frame width. 55

3. A slat frame as claimed in claim 1 wherein several elastic webs are provided, extending side by side. 60

4. A slat frame as claimed in any preceding claim wherein the elastic web or webs is or are constituted by known kinds of rubber textile webbing or belt arrangements which are fixed to the cross members of the frame. 65

5. A slat frame for a mattress substantially as hereinbefore described with reference to the accompanying drawing.

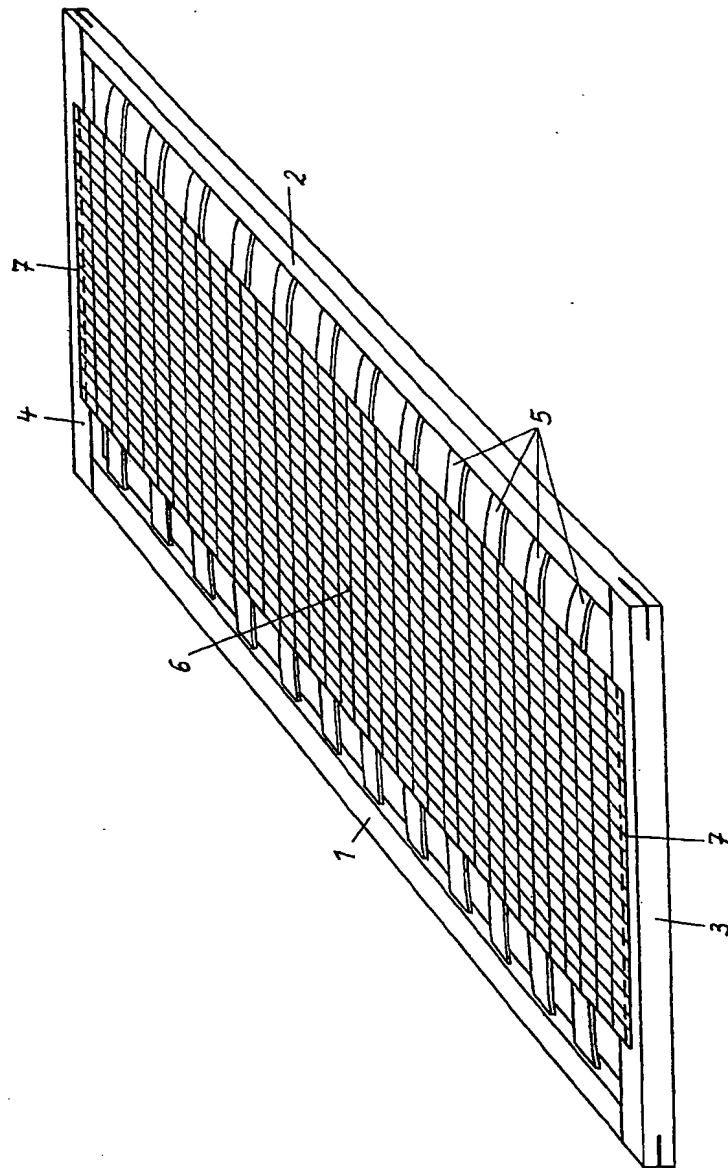
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COMPLETE SPECIFICATION

1 SHEET

*This drawing is a reproduction of  
the Original on a reduced scale*



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